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BEFORE THE ARIZONA CORPORATION COMMISSION

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CDKRISTIN K. MAYES
ChairmanGARY PIERCE
CommissionerPAUL NEWMAN
CommissionerSANDRA D. KENNEDY
CommissionerBOB STUMP
Commissioner

Arizona Corporation Commission

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IN THE MATTER OF THE APPLICATION
OF TUCSON ELECTRIC POWER
COMPANY FOR APPROVAL OF ITS
RENEWABLE ENERGY STANDARD AND
TARIFF IMPLEMENTATION PLAN –
CONTRACTS AND PROJECTS

DOCKET NO. E-01933A-09-0340

DECISION NO. 71640ORDER

Open Meeting
March 31 and April 1, 2010
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Tucson Electric Power Company ("TEP" or "Company") is engaged in providing electric service within portions of Arizona, pursuant to authority granted by the Arizona Corporation Commission.

2. On July 1, 2009, TEP filed for Commission approval of its 2010 Renewable Energy Standard and Tariff ("REST") Implementation Plan. As part of its application, TEP sought Commission approval of a number of purchased power contracts and renewable energy projects.

3. In Decision No. 71465 (January 26, 2010), the Commission approved an amended REST Implementation Plan, but did not act on TEP's request for pre-approval of a number of contracts and projects.

4. TEP's July 1, 2009 filing "requests that the Commission approve such contracts and the associated stream of payments over the lifetime of such contracts." In TEP's September 18, 2009 supplemental filing, the Company states it is requesting "approval to use REST funds for the

1 following items:" and then lists a number of projects and contracts. Neither filing provides a
2 comprehensive explanation of exactly what sort of approval TEP is seeking. It would seem that
3 TEP is seeking approval of both the contracts in general and specifically the financial
4 commitments TEP is making in each contract.

5 5. Staff is cognizant of TEP's interest in financial certainty regarding REST-related
6 contracts and projects. TEP will be committing significant financial resources to fund REST-
7 related projects. However, blanket approval of such contracts and projects would commit TEP
8 customers to paying for such projects without recourse for many years and could limit the
9 Commission's ability to review all aspects of whether such contracts and projects were prudent in
10 all aspects in the future. Staff does not believe such full-blown approval is warranted at this time.

11 6. However, Staff believes that an approach similar to what the Commission did with
12 the Arizona Public Service Company ("APS") contract for concentrating solar power with the
13 Solana facility is worth consideration. In Decision No. 70531 (September 30, 2008), the
14 Commission provided limited approval of the APS' contract with the Solana facility. Such
15 approval included findings that the Solana PPA was an appropriate component of APS' energy
16 portfolio and compatible with the APS implementation plan, would meet certain REST
17 requirements, and consideration that imprudence would not result simply due to the PPA being
18 more expensive than conventional generation. The order on the Solana PPA specifically did not
19 address the prudence of the PPA, its ratemaking treatment, or approval of the PPA.

20 7. Another request TEP made in this proceeding was for a faster approval process for
21 contracts and projects. While the Commission denied that request in Decision No. 71465, to the
22 extent the Commission were to grant approvals similar to what was done with the Solana project,
23 such proceedings would generally take place more quickly than the more involved process likely
24 to be associated with any form of complete pre-approval. So, while the process being discussed
25 here is less than TEP likely desires, it could nonetheless be helpful to the Company.

26 8. The REST rules, contained in Title 14, Chapter 2, Article 18 of the Arizona
27 Administrative Code ("A.A.C.") require Affected Utilities, including TEP, to provide a percentage
28 of its total retail kilowatt-hours ("kWh) from renewable energy resources. The percentage

1 increases from 1.25 percent in 2006 to 15 percent in 2025, gradually ramping up in intervening
2 years. The current requirement is 2.5 percent for 2010, increasing in the following years.

3 9. Section R14-2-1802 defines Eligible Renewable Energy Resources ("ERERs").
4 Staff's analysis includes a description of each contract and project under consideration, and
5 evaluates whether each contract and project is an appropriate part of TEP's energy portfolio and is
6 compatible with TEP's implementation plan and meets the applicable REST requirements.

7 10. TEP is seeking approval of purchased power agreements including agreements with
8 a 5 megawatt ("MW") concentrated solar power project with thermal salt storage, a 20 MW single
9 axis photovoltaic array, and a 1.5 MW landfill gas project. TEP is also seeking approval of
10 individual projects including a biodiesel pilot project, a 1.6 MW single axis solar tracker at the
11 Tucson Airport, and a 1.8 MW expansion of the photovoltaic facility at Springerville.

12 **Project Descriptions**

13 11. This section of the document provides a description of the projects for which TEP is
14 seeking approval. This section also provides Staff's perspective on how these resources
15 correspond with the REST Rules requirements.

16 Purchased Power Agreement with Renewable Fuel, LLC

17 12. This agreement was entered into on September 1, 2009 by TEP and Renewable
18 Fuel, LLC. Bell Independent Power Corp would be the operator of the facility. The effective date
19 is the later of the Agreement Date of September 1, 2009 or upon ACC approval. The Regulatory
20 Approval provision of the agreement conditions it on, among other things, Commission approval
21 of recovery by TEP for ratemaking purposes of the costs incurred by TEP. The agreement has a
22 20-year period, commencing on the effective date. The facility would be a 5 MW nominal net
23 capacity concentrated solar plant with thermal storage capable of a storage period of three to four
24 hours. Storage would take place via a single-tank thermal salt storage facility known as a Bell
25 Energy Storage Technology system. The planned operational date would be no later than 24
26 months after the date of approval by the ACC. The facility would be located on South Rita Road

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1 in Tucson, Arizona. The cost per MWh to be paid by TEP was provided to Staff pursuant to a
2 confidentiality agreement. The guaranteed generation from this facility would be 11,500 MWh per
3 contract year.

4 13. Staff believes that this resource falls within the definition of Solar Electric
5 Resources as defined in R14-2-1802.A.10.

6 Purchased Power Agreement with FRV Tucson Solar, LLC

7 This agreement was entered into on September 1, 2009 by TEP and FRV Tucson Solar,
8 LLC. The effective date is upon ACC approval or as otherwise agreed between the parties. The
9 Regulatory Approval provision of the agreement conditions it on, among other things, approval of
10 the agreement by the ACC within three hundred sixty-five days of the execution date. The
11 agreement has a 20-year period, commencing on the commercial operation date. The facility
12 would consist of 20 MW of single-axis photovoltaic panels. This would consist of 100,000 200-
13 watt polycrystalline photovoltaic modules. The planned operational date would be the later of 18
14 months after the date of approval by the ACC or December 31, 2011. This facility would be
15 located in the town of Avra Valley, northwest of Tucson, on land where the City of Tucson owns
16 the water rights. The cost per MWh to be paid by TEP was provided to Staff pursuant to a
17 confidentiality agreement. The delivered power during the first contract year is expected to be
18 57,071 MWh, with a reduction of 0.75 percent each year for the remainder of the contract, with a
19 requirement that the seller provide at least 70 percent of the expected delivered power starting in
20 the second contract year.

21 14. Staff believes that this resource falls within the definition of Solar Electric
22 Resources as defined in R14-2-1802.A.10.

23 Purchased Power Agreement with Phoenix Gas Producers, LLC

24 15. This agreement was entered into on September 4, 2009, by TEP and Phoenix Gas
25 Producers, LLC. The effective date is the date the agreement was entered into, September 4, 2009.
26 This agreement does not have a Regulatory Approval provision. The agreement lasts for 15 years
27 from the commercial operation date, which must be within three years of the effective date of the
28 agreement, or September 4, 2012. The project is expected to initially be between 1.6 and 2.4 MW

1 of generation fueled by landfill gas. The startup time is dependent on county processes. The
2 facility would be located at the Tangerine Landfill, north of Tucson. The cost per MWh to be paid
3 by TEP was provided to Staff pursuant to a confidentiality agreement. The annual estimated
4 generation is between 11,700 and 19,000 MWh per contract year. This resource could potentially
5 ramp up further in the future.

6 16. Staff believes that this resource falls within the definition of Landfill Gas Generator
7 as defined in R14-2-1802.A.8.

8 *Biodiesel Pilot Project*

9 17. On September 3, 2009, TEP and EDG Fuels entered into an agreement whereby
10 TEP purchases 1 million gallons of B99.9 percent off road biodiesel product. TEP would take this
11 biodiesel and burn it in its steam unit at its Sundt Generation Facility in Tucson. TEP's obligation
12 to purchase further biodiesel product is conditioned on TEP's ability to successfully burn the first
13 50,000 gallons that are delivered. Under the contract provided to Staff, deliveries of 250,000
14 gallons per month were scheduled for the months from September 2009 through December 2009.
15 The cost per gallon was provided to Staff pursuant to a confidentiality agreement. The biodiesel
16 product originates from waste grease created in cooking animal products. TEP has reported to
17 Staff that a total of approximately 600,000 gallons was delivered to TEP in late 2009, with the
18 supplier unable to make further deliveries. The remaining approximately 400,000 gallons to be
19 delivered was cancelled by mutual agreement between the parties. No further deliveries are
20 expected at this time.

21 18. This resource contains a very small amount of diesel in addition to the biofuel.
22 Staff believes that only the biofuel portion of this resource should be counted under the REST
23 rules. TEP has indicated to Staff that the supplier verifies the actual percentage of biofuel
24 contained in this resource.

25 19. Staff believes that the biofuel portion of this resource falls within the definition of a
26 Biogas Electricity Generator as defined in R14-2-1802.A.1. Staff has recommended that only the
27 biofuel portion of this resource be counted under the REST rules and that TEP provide
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1 documentation of the portion of this resource that is biofuel in filings where it claims this resource
2 under the REST rules.

3 Springerville Photovoltaic Expansion

4 20. In this proceeding, TEP has proposed two expansions of the Company's
5 photovoltaic system at the Springerville Generating Station. Currently, TEP has approximately 4.6
6 MW of photovoltaic generation at the Springerville facility. One part of TEP's proposal includes
7 the installation of four blocks of thin film modules providing 1 MW at a cost of \$4 million.
8 Another portion of the project also includes the installation of six blocks of crystalline panels
9 providing 0.81 MW at a cost of \$3.3 million. TEP has indicated that these buildouts of the
10 Springerville system could be accomplished relatively quickly, probably by the end of 2010.

11 21. Staff believes that this resource falls within the definition of Solar Electric
12 Resources as defined in R14-2-1802.A.10.

13 Tucson Airport Single Axis Solar Tracker

14 22. This project is a 1.6 MW single-axis solar tracker that was planned to be part of a
15 wider project called the TEP Storage Project. The 1.6 MW single-axis tracker would be located at
16 the Tucson International Airport and would be designed and constructed by SOLON Corporation.
17 The project would use 350 or 375 watt photovoltaic panels, with 384 modules per array, with 11 or
18 12 arrays used depending on the wattage of the panels used. The cost of the single-axis tracker
19 would be approximately \$6.7 million. TEP indicated in this proceeding that it was seeking
20 American Recovery and Reinvestment Act ("ARRA") stimulus funding for the TEP Storage
21 Project in conjunction with partners including the Arizona Institute for Solar Energy, Solon,
22 Raytheon, and the Tucson Airport Authority. TEP indicated that it would proceed with the single-
23 axis tracker regardless of whether it receives ARRA funding. The TEP Storage project would
24 involve a variety of technologies including smart grid and microgrid technologies, a demand-side
25 management component, and a number of storage technologies, including batteries, super-
26 capacitors, above and below ground compressed air, and others. TEP has recently notified Staff
27 that it did not receive ARRA funding for the storage portion of this project, so the project would be
28 a stand-alone single-axis tracker at this time. TEP may attempt to pursue the storage project

1 sometime in the future. TEP has indicated to Staff that the single-axis tracker project could be
2 constructed under a very short time frame, probably by the end of 2010.

3 23. Staff believes that this resource falls within the definition of Solar Electric
4 Resources as defined in R14-2-1802.A.10.

5 24. In summary, Staff believes all of the above contracts and projects, with the
6 exception of a small amount of diesel fuel used with the biofuel project, are reasonable means for
7 TEP to achieve its REST targets and to comply with its long-term REST requirements.
8 Specifically, Staff believes that all of the above contracts and projects, with the exception of a
9 small amount of diesel fuel used in the biofuel project, fall within the definitions contained in R14-
10 2-1802 of Eligible Renewable Energy Resources. Staff further believes that these contracts and
11 projects are compatible with TEP's 2010 REST implementation plan approved by the Commission
12 in Decision No. 71465 (January 26, 2010). Staff's recommendations do not include approval of
13 the projects or their costs or prudence.

14 **Staff Recommendations**

15 25. Staff has recommended that the Commission make the following findings regarding
16 the contracts and projects addressed in this proceeding:

- 17 • The contracts and projects are an appropriate component of TEP's energy portfolio and
18 are compatible with TEP's 2010 implementation plan as approved by the Commission
19 in Decision No. 71465.
- 20 • The contracts and projects, with the exception of the diesel fuel in the biofuel project,
21 meet the requirements for Eligible Renewable Energy Resources, pursuant to R14-2-
22 1802.
- 23 • In any subsequent inquiry into the prudence of these contracts and projects, the
24 expense of renewable energy purchased resulting from these contracts and projects
25 should not be deemed imprudent solely because the expense is greater than for
26 conventional generation.
- 27 • This Decision is not intended to address the prudence of the contracts and projects or
28 their ratemaking treatment.
- This Decision does not include approval of the contracts and projects, beyond the
findings contained herein.

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1 IT IS FURTHER ORDERED that this Decision does not include approval of the contracts
2 and projects, beyond the findings contained herein.

3 IT IS FURTHER ORDERED that this Decision shall become effective immediately.

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5 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

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7 CHAIRMAN

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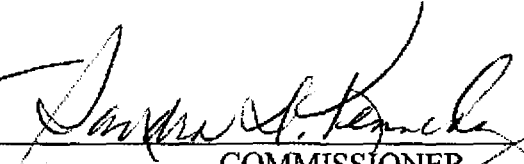
9 COMMISSIONER

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15 COMMISSIONER

16 IN WITNESS WHEREOF, I, ERNEST G. JOHNSON,
17 Executive Director of the Arizona Corporation Commission,
18 have hereunto, set my hand and caused the official seal of
19 this Commission to be affixed at the Capitol, in the City of
20 Phoenix, this 14th day of April, 2010.

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22 ERNEST G. JOHNSON
23 EXECUTIVE DIRECTOR

24 DISSENT: _____

25 DISSENT: _____

26 SMO:RGG:lhmvJFW

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